

What's new in ICT, popular culture and media?



Lindy Hathaway
Dickson College, ACT
Mod Day: March 2015



Password reset!

- Web security firm SplashData analyses several million leaked passwords
- '123456' most popular in 2014 (also in 2013)
- 'Password' most popular in 2012
- Other favourites – 'qwerty'; 'trustno1'; 'letmein', 'abc123'
- 123456 too short? Just add 78 😊
- Strong passwords: at least 12 characters; mix of letters, numbers, symbols, upper and lower case
- The end of passwords? Fujitsu Purse Wallet identifies the pattern of veins on your hand; Bionym Nymi wristband uses your heartbeat as a password



<http://splashdata.com/press/worst-passwords-of-2014.htm>

Australian Online Landscape Review

- **Nielsen Report Jan 2015**
- Analysis of data for Jan only
- 36 hrs online across 62 sessions per person
- 28 billion viewed pages
- 18 011 000 people online
- 50+ age group = 33.5% of online Australians.
- 2-34 yr olds = 38.2%
- 3.2 billion streams watched
- 13 472 000 people streaming – younger people stream more
- 63% of daily browses came from portable devices (smartphones more than tablets)



http://www.iabaustralia.com.au/uploads/uploads/2015-02/1424642400_d9371e6886fcee7b6731413517a15ecb.pdf



Top sites in Australia

1. Google.com.au
2. Google.com
3. Facebook
4. Youtube
5. Yahoo
6. Ebay
7. Wikipedia
8. LinkedIn
9. Twitter
10. live.com (Microsoft search engine)
11. Amazon
12. news.com.au
13. Paypal
14. Bing
15. Gumtree
16. Commbank
17. smh.com.au
18. abc.net.au
19. realestate.com.au
20. Reddit
21. Pinterest
22. Instagram
23. bom.gov.au
24. imdb.com
25. Westpac

<http://www.alex.com/topsites/countries/AU>

Aust. Multi-Screen Report Q3 2014

- **Nielsen Report Dec 2014**
- TV is still the centrepiece of viewing
- TV watching rose more than an hour per month (YOY) – Australians watch 96h58m per month of TV, mostly live
- Internet is in 80% of homes; those aged 2+ spent av. 37h 44m online each month on home and work computers
- They watched 7h30m of online video on computers (incl. TV content)
- Smartphones are the most common internet-connected devices in homes (91%); tablets (60%)
- 45% of homes own tablets
- 74% of age 16+ own a smartphone
- 13.377 million Australians watch some video on the internet each month (7h30m per mth)



<http://www.nielsen.com/au/en/insights/reports/2014/multi-screen-report-q3-20141.html>

Online streaming video

Stan – Fairfax/Nine

- Jan 2015
- \$10pm TV and movies

Presto – Foxtel/Seven

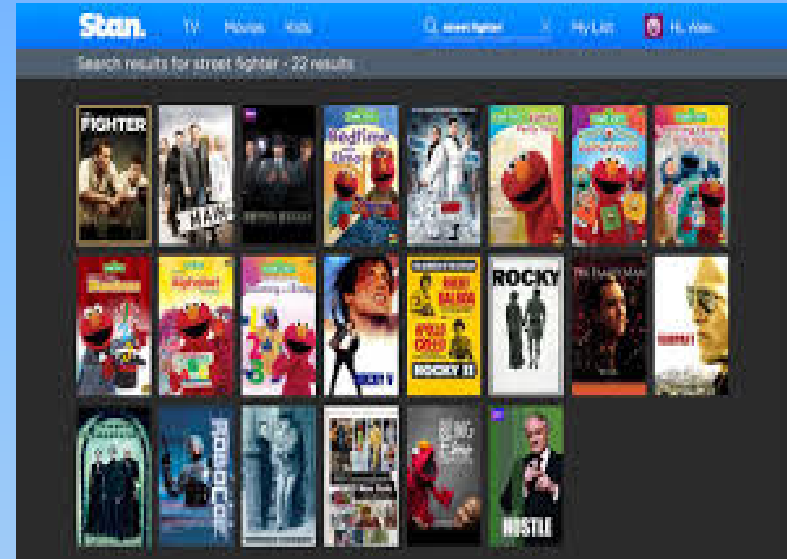
- Jan 2015
- \$14.95pm TV & movies; \$9.95 TV or movies

Quickflix

- Streaming since 2011; \$9.99pm

Netflix – US provider

- World's largest subscription streaming video service
- 54 million subscribers in 50 countries (200 countries by end 2016)
- Available end March?
- \$10pm?



<http://www.cnet.com/au/news/australian-streaming-video-services-compared/>

Australian e-Generation Report

- **Nielsen Report Feb 2015**
- 2-15 year olds spend av. 11h12m online each week (2007 – 4h34m)
- 13-15 year olds = 18.7 hrs/wk
- Children go online at an increasingly younger age, due to tablets, apps and smartphones
- Kids and teens more likely to use apps for the content they want
- Younger children use tablets; teens have all devices
- Household ownership – 7 in 10 own tablets; 9 in 10 laptops; 6 in 10 wifi

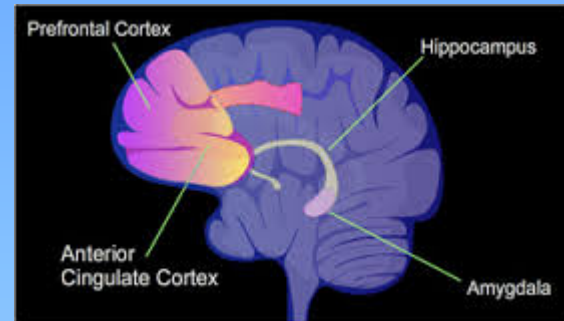


<http://www.nielsen.com/au/en/insights/news/2015/childs-play-connected-aussie-kids-spend-up-to-equivalent-of-three-school-days-online.html>

Brain drain

Dr Ben Buchanan, Monash Uni:

- Constant use of mobile phones leads to brain drain – a mindlessness where people perform on autopilot without paying full attention to what is happening in the real world
- They also have smaller anterior cingulate cortex areas in their brains (associated with the regulation of attention)
- So resist your phone and improve your concentration and memory
- The overuse of phones and social media makes us feel constantly busy, which can damage our the quality of our communication and relationships



<http://benbuchanan.com.au/phone-social-media-drain-our-brain/>

Outlook on the Global Agenda 2015

World Economic Forum reports:

- Top 10 trends for next 12-18 months
- Regional challenges
- Overview of global leadership and governance
- Emerging issues that will define our future (eg. future of education; future of the internet)



Mapping the future: the future of the internet

- 26 billion devices on the Internet of Things by 2020
- Internet governance - who should oversee our online world?
- Most of the core infrastructure remains in Western institutions, especially the US (Domain names, IP addresses)
- “In the future, no lone institution or country can rule the internet, not even the US” – Xiaodong Lee.
- “We need a clearer understanding of the limits of government and corporate intervention online” – Helen Margetts
- The real dangers of the internet lie with the emergence of monolithic platforms (eg. Google, Facebook)
- Can existing laws about copyright, fraud, libel, data protection and freedom of expression be effectively enforced online?

<http://reports.weforum.org/outlook-global-agenda-2015/future-agenda/mapping-the-future-the-future-of-the-internet/>

<http://reports.weforum.org/outlook-global-agenda-2015/>



The (algo)rithm of life

- An algorithm is simply a set of instructions for getting something done
- News, music, shopping, airfares, internet searches, jobs, finances, human rights, news of friends & family – all served up automatically, based on statistical guesswork about what we want
- Algorithms are now interacting in increasingly complex ways - it is hard to predict how they will behave with real-world data
- 12 Dec 2014 glitch – many items on Amazon dropped to 1 cent. They cancelled many orders but couldn't recall those that their automated system had already dispatched.
- Aniko Hannak – 12% of google searches get personalised (Google thanked her for the info)
- Facebook – algorithms decide what posts we see in our newsfeeds from friends
- Christian Sandvig - Retailers such as Walmart, Office Depot and Expedia vary prices based on user's choice of browser, operating system and purchase history.
- Do people from rich and poor neighbourhoods get different results when searching for financial services? Did algorithms play a part in the 2008 sub-prime mortgage crash? High-risk borrowers were charged higher interest rates.

Who are the watchdogs?

- White House report – policy-makers need to pay more attention to what the algorithms do with data. Independent auditors should inspect algorithms and monitor their impact.
- Details of algorithms need to be kept safe from competitors and hackers
- Most automated systems are too complex for humans to inspect by hand – there are algorithms that check other algorithms!



“The internet will disappear”

- Google boss Eric Schmidt at the World Economic Forum in January
- IP addresses, devices, sensors, wearables etc - the internet's presence will become so all-encompassing that we won't even be aware it's there
- The Internet of Things will be highly personalised, highly interactive...and very interesting

http://www.huffingtonpost.co.uk/2015/01/23/eric-schmidt-internet-will-disappear_n_6530574.html



Internet.org

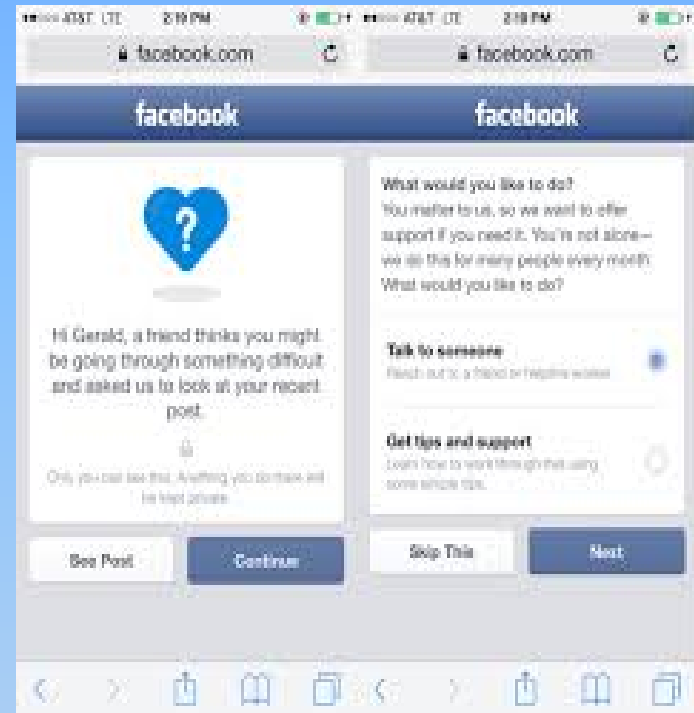
- 2/3 of the world is not connected to the internet
- Mark Zuckerberg's internet.org will bring the internet to developing nations, in partnership with local carriers
- Internet.org Android app launched in Colombia and Ghana in January; India in Feb; also available in Zambia, Kenya & Tanzania
- Users have free access to websites and services – news, local info, education, books, maternal health, ebola info, sport, job search
- Included services – BBC News, Wikipedia, Facebook, Wattpad



<http://www.internet.org/>

Facebook suicide prevention

- Facebook will add new tools in the US (and then globally) to assist users who express suicidal thoughts
- It has worked with mental health organisations in the US to find the proper way to offer assistance
- If someone posts something that indicates self harm and it is reported to Facebook, they will be sent messages that encourage them to speak with a mental health expert and offered support
- Resources will also be offered to those who flag the posts
- Facebook – 1.4 billion users



<http://www.theverge.com/2015/2/26/8113735/facebook-suicide-prevention-feature>

Curriculum of the future: how digital content is changing education

Center for Digital Education Report

(Nov 2014):

- K-20 educational institutions are increasingly shifting to digital curriculums and adopting mobile devices.
- Many teachers and students are collaborating and creating their own content & curriculum
- **Beyond Textbooks** - Vail Public Schools District created its own digital content store in 2008 and stopped buying textbooks. 26 000 learning objects are now available in 100 school districts.

CDE Digital Curriculum Survey 2014 –

What are the most important features of digital content to improve student learning?

1. Enables interaction among students or between students and teachers (44%)
2. Is adaptive or personalised (22%)
3. Is project or problem-based (16%)
4. Is game based (12%)
5. Includes video (6%)

<http://www.centerdigitaled.com/paper/Curriculum-of-the-Future-How-Digital-Content-is-Changing-Education.html>

- “In the 21st century, we want students to create content and we want teachers to do the same. Producing that kind of thing on the fly in collaboration with one another is really the bleeding-edge trend. Using static resources for reference and historical perspective is also important. But in this age of rapid knowledge and information development and sharing, educators and students must be able to generate current subject matter.”



- Leslie Wilson (One-to-One Institute)

(in Center for Digital Education Report 2014,
*Curriculum of the future: how digital content is changing
education*)



Florida Polytechnic University Library

- Designed by Spanish architect Santiago Calatrava - opened August 2014
- No print books – 135 000 ebooks
- Access to print books via state university interlibrary loans
- \$60 000 for students to access ebooks not owned by the library – when a book has been viewed twice, it is automatically purchased
- The new uni only offers courses in STEM subjects
- Other bookless libraries – 2 NASA libraries, public library in Bexar County, Texas and a school library in Minnesota



<http://www.theguardian.com/books/2014/aug/29/bookless-library-new-us-university-florida-polytechnic-digital>

https://www.google.com.au/search?q=florida+polytechnic+university+library&safe=active&es_sm=93&source=lnms&tbn=isch&sa=X&ei=8XTuVOD_DNTt8AX4u4D4Bw&ved=0CAgQ_AUoAQ&biw=926&bih=839#imgdii=

Libraries in the digital age? Yes, they're still crucial

- Community centres welcoming all
- Creative workspaces for collaborative projects
- Computer and internet access for all
- Social service centres – visited by the homeless, unemployed
- Remodelled Library 21c in Colorado Springs – sewing machines, business centre, 3D printers, video and audio production, software and platforms for video game development, family centre, 400 seat space for lectures and performances



<http://www.centerdigitaled.com/GT-Libraries-in-the-Digital-Age-Yes-Theyre-Still-Crucial.html>

The most anticipated tech of 2015

- Apple Watch
- Sony Project Morpheus – Virtual Reality (VR) accessory for Playstation
- Oculus Rift – VR headset
- Samsung Galaxy S6
- USB 3.1 Type C – faster; reversible
- Lightning accessories – for Apple's port eg. wireless speakers
- Nintendo New 3DS XL
- Amazon Echo – voice-controlled network speaker
- Windows 10 – for phones, tablets & PCs
- Self-driving cars
- iPad Plus – larger



<http://www.cnet.com/au/pictures/most-anticipated-tech-of-2015/>

Wearable technology

- Google Glass – beta prototype no longer produced (15 Jan 2015). Now being redesigned.
- Fitbit
- Pebble watch – started 2012 - Kickstarter project – 400 000 units sold; recently revamped
- Do people really want to wear technology?
- Apple Watch will change things – small, light and attractive
- In 3 to 5 years people will be spending over \$30 billion annually on wearables (Credit Suisse)





The Apple Watch

- A redrawing of the map that locates technology in one place and our bodies in another
- 5 million units ready to ship in April
- \$349
- Apple Watch needs to communicate with an iPhone
- **Fitness** – suggestions and goals
- **Glances** – calendar, stocks, locations....
- **Smart replies** – answers messages
- **Apple Pay** – hold your watch near a reader at an Apple Pay store
- **Digital Touch** – sends sketches, a gentle tap or your heartbeat 😊
- Uses Siri
- Makes calls like a phone
- Controls your iPhone's music and camera
- Underside sensors take heartrate readings – it will learn your habits over time
- In 5 years will it seem bizarre not to know how many kilojoules you've eaten today?
- What will happen to all the information your Watch gathers??

<http://www.techradar.com/au/news/wearables/apple-iwatch-release-date-news-and-rumours-1131043>

<https://www.apple.com/au/watch/>

Oculus Rift headsets

- Sundance Film Festival in Utah Jan 2015 – several short virtual reality (VR) films where viewers wear headsets eg. Oculus Rift
- *Wild: the experience* – viewers join Reese Witherspoon as she hikes the Pacific Crest Trail
- *Project Syria* – viewers are at the centre of a rocket attack



New Scientist, 7 Feb 2015

Google Cardboard

- Simple, fun and inexpensive Virtual Reality - turns your phone into a VR headset!
- Created as part of a 20% project (employees allowed to work on side projects)
- Get it, fold it, attach your phone inside and look through the 40mm lenses
- The lenses create a 3D effect when held up to your eyes
- Explore a variety of apps that unfold around you – visit new places, play immersive games, fly through space....
- Cardboard app – has demos of Google Earth (fly wherever you like) or view YouTube on seemingly massive screens
- VR Cinema for Cardboard App – converts MP4 files into a split screen to give 3D VR feel to movies



<https://www.google.com/get/cardboard/>

<http://www.techradar.com/au/news/phone-and-communications/mobile-phones/google-cardboard-everything-you-need-to-know-1277738>

3D and 4D printing

3D

- 3D now available in Photoshop with full-gradient colour
- New York designers Michael Schmidt and Francis Bitonti created the world's first 3D printed dress in 2013
- “The future of fashion is code, not couture” - Bitonti
- Bitonti is now making 3D shoes, jewellery and fabric using Photoshop eg. Molecule voxel platform shoes
- Asda stores in Britain offer scanning booths that produce “mini-me” models in 12 seconds (\$110)

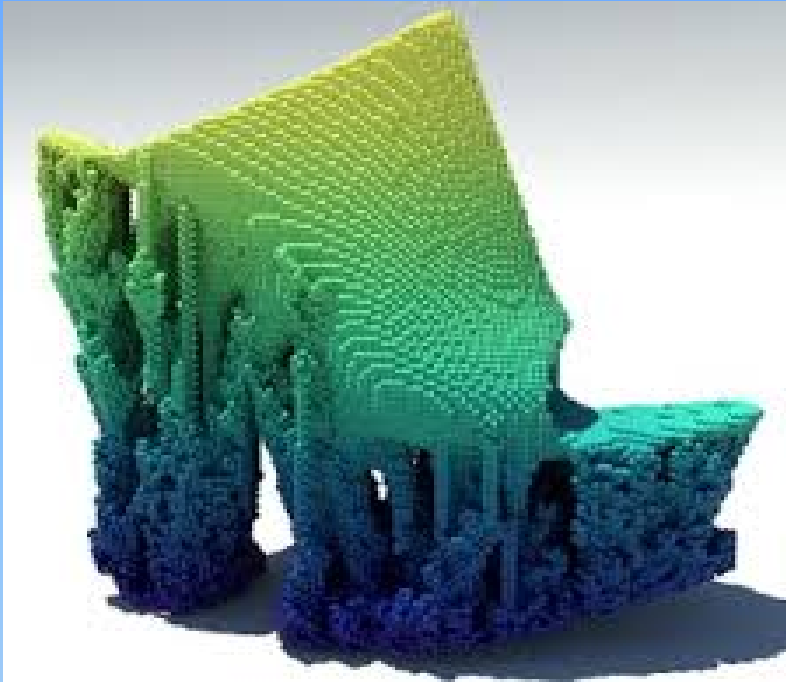
<http://3dprint.com/14601/bitonti-3d-printed-shoe/>

4D

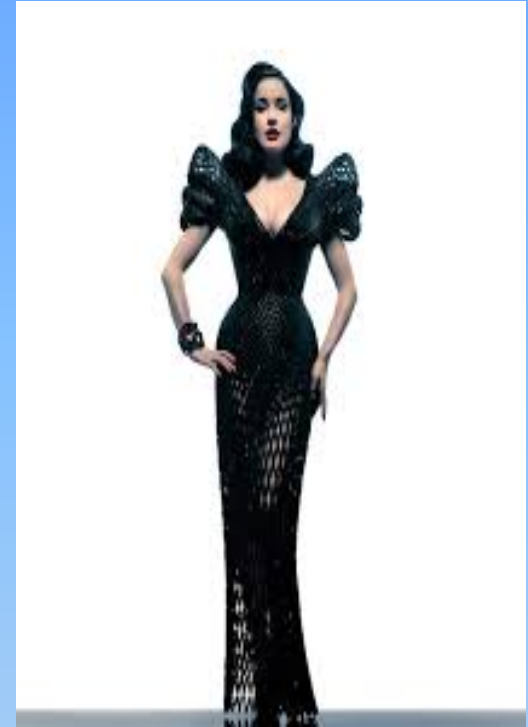
- The 4th dimension is time
- 3D printed objects can reshape themselves or self-assemble over time eg. medical devices or a printed pipe can sense the need to expand or contract



<http://www.livescience.com/49185-4d-printing-shape-shifting-structures.html>



Molecule voxel platform shoes



First 3D dress

Raspberry Pi 2

- 2nd model released Feb 2015
- Six times more powerful – can be used as an entry level PC
- 5 million sold since 2012 – best-selling British computer ever
- Credit card sized – can be hooked up to a monitor, keyboard and mouse
- Windows 10 for Raspberry Pi 2
- Excellent for educational projects and DIY computers
- Costs less than 25 pounds



Article and some historic computer ads:

<http://time.com/3691968/raspberry-pi-2/>

Emojis

- Meaning: picture character
- Originally created in Japan 1998—some emoji now incorporated into Unicode (text coding for the web)
- Core set of 722 emojis approved by the Unicode Consortium – 250 added in 2014 with 37 more candidates in 2015 (taco, unicorn face, Buddha, mosque, synagogue)
- Apple have unveiled 300 new emojis with wider racial diversity and family structures – but are they diverse enough?
- Facebook offers many different & diverse emojis



<http://www.smh.com.au/digital-life/mobiles/apples-new-diverse-emojis-are-not-diverse-enough-20150224-13n57k.html>

<http://en.wikipedia.org/wiki/Emoji>

- “No drone zone” at the Super Bowl – US government released video warning that drones were banned from flying within 50 km of the stadium
- Robot hotel opens in Japan – the Henn-na Hotel in Nagasaki will have robots as porters, cleaners and receptionists. Other areas? Folding a towel takes a robot 6 minutes.

http://www.seejapan.co.uk/jnto_consumer/media/press-releases/press-release-detail/15-01-30/hotel-staffed-by-robots-opening-in-japan



Google Self-Driving Car

- Allowed in 4 US states
- April 2014 – 1.1 million km logged
- Fully functioning model (no steering wheel or pedals) to be tested on roads in San Francisco Bay area early 2015 – possible release 2017-2020
- Roof laser generates detailed 3D map of the environment
- The car uses the generated maps and combines them with high resolution maps of the world
- Sensors keep the car at a distance from other cars
- A human driver can take control of the car at any time
- Not good in heavy rain, snow, parking lots, humans signalling the car to stop



<https://plus.google.com/+GoogleSelfDrivingCars/videos>

Car wars

- Uber –ridesharing company launched 2010
- Available in 200 cities in 53 countries
- In Australia since Nov 2012 – banned in NSW, Qld, Vic, WA but still operates
- Not popular with taxi companies and governments
- Users submit a trip request via the Uber app to crowd-sourced drivers (professional or private)
- UberX – ordinary people driving their own vehicles
- Uber automatically bills user's credit card at end of trip; prices can surge



[http://en.wikipedia.org/wiki/Uber %28company%29](http://en.wikipedia.org/wiki/Uber_%28company%29)

Apple iWork

- Apple to challenge Office 365 and Google Apps
- Non-Apple users can sign up for iWork for iCloud through a browser
- Everyone now has access to Pages, Numbers and Keynote and 1 GB of free storage
- Google Apps is regarded as far superior due to collaboration features eg. multi-user editing and video conferencing
- ABC Four Corners 2 March 2015: Apple's broken promises - examines Apple's questionable practices inside its Chinese factory and at tin mines in Indonesia



<http://www.theverge.com/2015/2/15/8043569/iwork-apps-apple-now-available-android-windows>

<http://www.abc.net.au/4corners/stories/2015/02/26/4187424.htm>

Storydesk

- A powerful alternative to Powerpoint and Prezi
- A collection of interactive templates – videos, files etc
- Nonlinear presentation – slides are organised in a grid
- Use the grid to create hierarchies of content
- Download free from the App Store
- Roundtable feature – the presenter can guide a group presentation to 10 000 iPads!
- The audience can interact with the content.



<http://www.educatorstechnology.com/2014/06/storydesk-powerful-alternative-to.html>

eBooks from Wikipedia

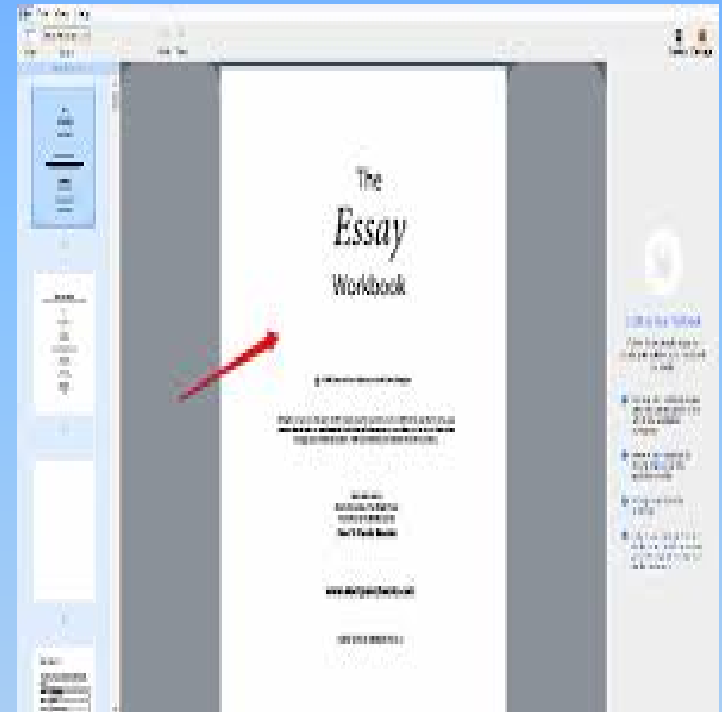
- Create an eBook from Wikipedia pages by using their Book Creator tool
- eBooks can be downloaded in different formats
- No copyright issues – all of Wikipedia is available under a Creative Commons (share alike) licence.



<http://www.educatorstechnology.com/2014/02/a-quick-visual-guide-on-how-to-create.html>

Kindle Textbook Creator

- Released by Amazon – educators can create and publish textbooks and other educational content in Kindle stores
- PDFs and Docs are transformed into eBook format
- Tools for graphs, charts, equations etc
- Provides Amazon marketing tools to promote your book



<http://www.educatorstechnology.com/2015/02/create-publish-textbooks-using-kindle-textbook-creator-tool.html>

The Oscars

Best Picture nominations

- Winner: Birdman
 - Boyhood
 - The Grand Budapest Hotel
 - The imitation game
 - Selma
 - The theory of everything
 - Whiplash
 - American sniper
-
- **Best Actress:** Julianne Moore (Still Alice)
 - **Best Actor:** Eddie Redmayne (The theory of everything)

- **Best Documentary:** CitizenFour
- **Best Animated Film:** Big Hero 6
- **Best Director:** Alejandro Innaritu (Birdman)



<http://oscar.go.com/nominees>